STIC Search Report
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STIC Database Tracking Number 161131

TO: Ralph J Gitomer **Art Unit:** 1655 **Location:** rem/3B65/3C18 **Serial Number:** 09/230275 **Tuesday, March 21, 2006**	**From:** Beverly Shears **Location:** Biotech-Chem Library REM 1A54 **Phone:** 571-272-2528 beverly.shears@uspto.gov

Search Notes

Access DB# 181k

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: R Gitomer Examiner #: 69630 Date: 3/2/06
Art Unit: 1655 Phone Number 30 Serial Number: 09/230,275
Mail Box and Bldg/Room Location: 3C18 / 3365 Results Format Preferred (circle): PAPER DISK E-M

If more than one search is submitted, please prioritize searches in order of need. 1

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

_____

Earliest Priority Filing Date: _____

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with appropriate serial number.*

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STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher: Beverly c 2528	NA Sequence (#)_____	STN ✓ _____
Searcher Phone #: _____	AA Sequence (#)_____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr.Link _____
Date Completed: _____	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: _____	Other _____	Other (specify) _____

PTO-1590 (8-01)

FILE 'REGISTRY' ENTERED AT 14:59:07 ON 21 MAR 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 20 MAR 2006 HIGHEST RN 877371-73-8
DICTIONARY FILE UPDATES: 20 MAR 2006 HIGHEST RN 877371-73-8

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

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*                                                                    *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005.  A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*                                                                    *
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Structure search iteration limits have been increased. See HELP SLIMITS
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REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
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http://www.cas.org/ONLINE/UG/regprops.html

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                E CHOLESTEROL DEHYDROGENASE/CN 5
L1            2 S CHOLESTEROL DEHYDROGENASE ?/CN
                E CHOLESTEROL ESTERASE/CN 5
L2           10 S CHOLESTEROL ESTERASE ?/CN
                E NAD/CN 5
L3            1 S E3
                E TRICINE/CN 5
L4            1 S E3
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FILE 'HCAPLUS' ENTERED AT 14:59:07 ON 21 MAR 2006
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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 21 Mar 2006 VOL 144 ISS 13
FILE LAST UPDATED: 20 Mar 2006 (20060320/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

L1 2 SEA FILE=REGISTRY ABB=ON PLU=ON CHOLESTEROL DEHYDROGENASE ?/CN
L2 10 SEA FILE=REGISTRY ABB=ON PLU=ON CHOLESTEROL ESTERASE ?/CN
L3 1 SEA FILE=REGISTRY ABB=ON PLU=ON NAD/CN
L4 1 SEA FILE=REGISTRY ABB=ON PLU=ON TRICINE/CN
L5 799 SEA FILE=HCAPLUS ABB=ON PLU=ON L1 OR CHOLESTEROL(W)(DEHYDROGENASE OR DE HYDROGENASE) OR CDH
L6 19312 SEA FILE=HCAPLUS ABB=ON PLU=ON L2 OR (CHOLESTER? OR STEROID)(W)(ESTER OR ESTERASE) OR ((KETOSTERYL OR KETO STERYL)(W)OLEATE OR CHOLESTER? OR CHOLESTERYL ESTER)(W)HYDROLASE OR (ACYLCHOLESTER? OR ACY CHOLESTER? OR HORMONE SENSITIVE)(W)LIPASE OR STEROL ESTER(W)(ACYLHYDROLASE OR ACYL HYDROLASE)
L7 65 SEA FILE=HCAPLUS ABB=ON PLU=ON L5 AND (L6 OR CE)
L8 28 SEA FILE=HCAPLUS ABB=ON PLU=ON L7 AND (L3 OR NAD OR NADH OR (DIHYDRONICOTINAMIDE OR DI HYDRONICOTINAMIDE OR NICOTINAMIDE)(W)ADENINE(W)(DINUCLEOTIDE OR DI NUCLEOTIDE) OR (COENZYME OR CO ENZYME)(1W)(1 OR I) OR DPN OR (DIPHOSPHO PYRIDINE OR DI(W)(PHOSPHOPYRIDINE OR PHOSPHO PYRIDINE) OR DIPHOSPHO PYRIDINE)(W)NUCLEOTIDE)
L9 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L8 AND (L4 OR TRICINE)

L9 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 16 Feb 1998
ACCESSION NUMBER: 1998:89377 HCAPLUS
DOCUMENT NUMBER: 128:112651
TITLE: Cholesterol separation and fluorescent analysis
INVENTOR(S): Hicks, Debra Linn; Merchant, Mark Edwin; Guadagno, Philip Angelo; Robinson, Suzan Sha; Millican, Stacey Eloise; Nakazato, Tokiya
PATENT ASSIGNEE(S): Helena Laboratories., USA; Hicks, Debra Linn; Merchant, Mark Edwin; Guadagno, Philip Angelo; Robinson, Suzan Sha; Millican, Stacey Eloise; Nakazato, Tokiya
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9803675	A1	19980129	WO 1997-US13321	19970723
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

EP 931164	A1	19990728	EP 1997-934337		19970723
EP 931164	B1	20030326			
R: DE, FR, GB, IT					
JP 2000516454	T2	20001212	JP 1998-507252		19970723
PRIORITY APPLN. INFO.:			US 1996-22354P	P	19960724
			WO 1997-US13321	W	19970723

AB A method and reagent for cholesterol fraction separation by electrophoresis and quant. interpretation of the HDL, LDL and VLDL fractions. The reagent is applied after the electrophoretic separation and each fraction will fluoresce in response to excitation at a wavelength which peaks at 356nm. The reagent includes **NAD** which, in the reduced form **NADH**, will fluoresce.

IT **53-84-9, NAD**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(cholesterol separation and fluorescent anal.)

IT **5704-04-1, Tricine**
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(cholesterol separation and fluorescent anal.)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 12 May 1984
ACCESSION NUMBER: 1984:99477 HCAPLUS
DOCUMENT NUMBER: 100:99477
TITLE: Color reagent for lipoprotein cholesterol determination
PATENT ASSIGNEE(S): Nippon Chemiphar Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58210000	A2	19831207	JP 1982-92731	19820531
PRIORITY APPLN. INFO.:			JP 1982-92731	19820531

AB A method for the determination of cholesterol in lipoproteins separated by gel electrophoresis is described in which a color reagent containing **cholesterol esterase, cholesterol dehydrogenase, NAD**, diaphorase, and NBT in **tricine** buffer is used. For example, separated serum lipoproteins on an agarose gel were treated with the above reagent for 30 min at 37°. The cholesterol fractions were stained with a sharp red-purple color. Then the gel was washed with HOAc solution and H2O and dried at 70° for 20 min. Cholesterol contents in high-d. lipoproteins, very-low-d. lipoproteins, and low-d. lipoproteins were determined by densitometry at 570 nm and were 35, 5, and 60%, resp.

IT **53-84-9**
RL: ANST (Analytical study)
(in lipoprotein cholesterol determination)

FILE 'MEDLINE' ENTERED AT 14:59:07 ON 21 MAR 2006

FILE 'BIOSIS' ENTERED AT 14:59:07 ON 21 MAR 2006

FILE 'EMBASE' ENTERED AT 14:59:07 ON 21 MAR 2006

FILE 'WPIDS' ENTERED AT 14:59:07 ON 21 MAR 2006

FILE 'CONFSCI' ENTERED AT 14:59:07 ON 21 MAR 2006

FILE 'SCISEARCH' ENTERED AT 14:59:07 ON 21 MAR 2006

FILE 'JICST-EPLUS' ENTERED AT 14:59:07 ON 21 MAR 2006

FILE 'JAPIO' ENTERED AT 14:59:07 ON 21 MAR 2006

L10 1 S L9

L10 ANSWER 1 OF 1 JAPIO (C) 2006 JPO on STN
ACCESSION NUMBER: 1983-210000 JAPIO
TITLE: DETERMINATION OF CONCENTRATION OF LIPOPROTEIN CHOLESTEROL
INVENTOR: URATA TAKEYOSHI
PATENT ASSIGNEE(S): NIPPON CHEMIPHAR CO LTD
PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 58210000	A	19831207	Showa	C12Q001-60

APPLICATION INFORMATION
STN FORMAT: JP 1982-92731 19820531
ORIGINAL: JP57092731 Showa
PRIORITY APPLN. INFO.: JP 1982-92731 19820531
SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1983

AN 1983-210000 JAPIO
AB PURPOSE: To determine the concentration of lipoprotein cholesterol extremely accurately, by the rapid dyeing reaction using a novel dyeing reagent containing **cholesterol esterase**, etc.
CONSTITUTION: A body fluid such as blood serum is used as a specimen, and is subjected to the electrophoresis to fractionate lipoprotein cholesterol, which is treated by immersion process, sandwich process, etc. with a dyeing reagent prepared by adding 10∼15u of **cholesterol esterase**, 6∼15u of **NAD** -dependent **cholesterol dehydrogenase** originated from aerobic microorganisms, 10∼15u of diaphorase, 10∼15mM of **NAD** and 0.5∼1mM of NTB to 3ml of 0.1M **tricine** sodium having a pH of 7.6∼9.6.

Searcher : Shears 571-272-2528

(FILE 'HCAPLUS' ENTERED AT 15:01:58 ON 21 MAR 2006)

L1 2 SEA FILE=REGISTRY ABB=ON PLU=ON CHOLESTEROL DEHYDROGENASE ?/CN

L2 10 SEA FILE=REGISTRY ABB=ON PLU=ON CHOLESTEROL ESTERASE ?/CN

L3 1 SEA FILE=REGISTRY ABB=ON PLU=ON NAD/CN

L4 1 SEA FILE=REGISTRY ABB=ON PLU=ON TRICINE/CN

L5 799 SEA FILE=HCAPLUS ABB=ON PLU=ON L1 OR CHOLESTEROL(W)(DEHYDROGENASE OR DE HYDROGENASE) OR CDH

L6 19312 SEA FILE=HCAPLUS ABB=ON PLU=ON L2 OR (CHOLESTER? OR STEROID)(W)(ESTER OR ESTERASE) OR ((KETOSTERYL OR KETO STERYL)(W)OLEATE OR CHOLESTER? OR CHOLESTERYL ESTER)(W)HYDROLASE OR (ACYLCHOLESTER? OR ACY CHOLESTER? OR HORMONE SENSITIVE)(W)LIPASE OR STEROL ESTER(W)(ACYLHYDROLASE OR ACYL HYDROLASE)

L11 7563 SEA FILE=HCAPLUS ABB=ON PLU=ON (L5 OR L6 OR CE) AND (LIPOPROTEIN OR LIPO PROTEIN OR HDL OR LDL OR VLDL)

L12 32 SEA FILE=HCAPLUS ABB=ON PLU=ON L11 AND (L3 OR NAD OR NADH OR (DIHYDRONICOTINAMIDE OR DI HYDRONICOTINAMIDE OR NICOTINAMIDE)(W)ADENINE(W)(DINUCLEOTIDE OR DI NUCLEOTIDE) OR (COENZYME OR CO ENZYME)(1W)(1 OR I) OR DPN OR (DIPHOSPHO PYRIDINE OR DI(W)(PHOSPHOPYRIDINE OR PHOSPHO PYRIDINE) OR DIPHOSPHO PYRIDINE)(W)NUCLEOTIDE)

L13 3 SEA FILE=HCAPLUS ABB=ON PLU=ON L12 AND (L4 OR TRICINE)

L14 1 L13 NOT L9

L14 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2006 ACS on STN

ED Entered STN: 06 Dec 2002

ACCESSION NUMBER: 2002:928122 HCAPLUS

DOCUMENT NUMBER: 138:12504

TITLE: Method for assaying biomolecules and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemistry techniques

INVENTOR(S): Smith, Jack V.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 46 pp.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002182600	A1	20021205	US 2001-829563	20010411

PRIORITY APPLN. INFO.: US 2001-829563 20010411

AB The present invention is a method for the use of particles made up of nucleotides or fragments of base groups of DNA and RNA mols. herein referred to as synthetic nucleounits which can be used as recognition mols. with specificity and sensitivity significantly greater than that of antibodies which are used in clin. diagnostics, biotechnol., and research. The method for detecting an analyte using nucleounits targeted to the analyte comprises (1) identifying a nucleounit from a mixture of synthetic random sequences of nucleounit libraries, (2) conjugating the nucleounit to an indicator for the analyte, and (3)

detecting the analyte using the nucleounit-indicator conjugate in a buffer. Step 1 is carried out by (a) contacting the analyte with the mixture of synthetic random sequences of nucleounit libraries such that some nucleounits bind the analyte, (b) removing the unbound nucleounits by partitioning, and (c) amplifying the remaining nucleounits by PCR to obtain an enriched solution of nucleounits with high affinity for the analyte. Thus, a method and lateral flow test strip for detection of cytomegalovirus (CMV) presence in a biol. sample such as serum or urine is described. The strip is prepared with three solns., one containing anti-CMV antibodies, one containing "nucleounit to CMV antibody conjugated to red microparticles" and "red microparticles", and another containing "nucleounit to colored particles". The "nucleounit" may be an oligonucleotide aptamer specific for anti-CMV antibodies.

IT **5704-04-1, TRICINE**
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(buffer; method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

IT **53-84-9, Nicotinamide adenine dinucleotide**
RL: ARG (Analytical reagent use); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(indicator; method for assaying biomols. and other constituents using indicator conjugates with synthetic nucleounits in lateral flow, liquid, and dry chemical techniques)

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 15:04:23 ON 21 MAR 2006)

L15 2 S L13
L16 1 S L15 NOT L10

L16 ANSWER 1 OF 1 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2003-503220 [47] WPIDS
DOC. NO. CPI: C2003-134329
TITLE: Detecting an analyte e.g. cocaine involves conjugating the nucleounits to indicator for the analyte forming nucleounit indicator conjugate and detecting the analyte of interest using the nucleounit indicator conjugate in a buffer.
DERWENT CLASS: B04 B05 D16
INVENTOR(S): SMITH, J V
PATENT ASSIGNEE(S): (SMIT-I) SMITH J V
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2002182600	A1	20021205	(200347)*		46

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2002182600	A1	US 2001-829563	20010411

PRIORITY APPLN. INFO: US 2001-829563 20010411
AN 2003-503220 [47] WPIDS

Searcher : Shears 571-272-2528

AB US2002182600 A UPAB: 20030723
NOVELTY - Detecting an analyte of interest, comprising identifying a nucleounit from a mixture of synthetic random sequences of nucleounit libraries, conjugating the nucleounits to indicator for the analyte forming an nucleounit indicator conjugate, and detecting the analyte of interest using said nucleounit indicator conjugate in a buffer, is new.

DETAILED DESCRIPTION - Detecting an analyte of interest using nucleounits targeted to the analyte of interest, comprising:

(a) identifying a nucleounit from a mixture of synthetic random sequences of nucleounit libraries, comprising:

(i) contacting the analyte of interest with the mixture, in which the nucleounits have an affinity to the analyte of interest and bind the analyte;

(ii) removing the unbound nucleounits by partitioning; and

(iii) amplifying the remaining nucleounits by polymerase chain reaction to obtain an enriched solution of nucleounits with high affinity for the analyte of interest;

(b) nucleounits are then conjugated to indicator for the analyte of interest forming an nucleounit indicator conjugate; and

(c) detecting the analyte of interest using the nucleounit indicator conjugate in a buffer.

USE - For detecting an analyte e.g. cocaine, opiates, gamma-hydroxybutyric acid, cannabinoid, benzodiazepine, acetaminophen, amikacin, amino caproic acid, amitriptyline, amobarbital, amphetamine, bromide, caffeine, carbamazepine, carbenicillin, chloral hydrate, chloramphenicol, chlordiazepoxide, chlorpromazine, cimetidine, clonazepam, clonidine, clorazepate, cocaine, cocaine metabolites, ethanol, methanol, or other forms of alcohol, codeine, cyclosporine, desipramine, dexamethsone, diazepam, digoxin, diphenylhydantoin, disopyramide, doxepin, ephedrine, ethchlorvynol, ethosuximide, fenoprofen, flecainide, flurazepam, gentamicin, glutethimide, hydromorphone, ibuprofen, imipramine, isoniazid, kanamycin, lidocaine, lithium, lorazepam, lysergic acid, meperidine, meprobamate, methadone, methamphetamine, methaqualone, methotrexate, methsuximide, methyldopa, methyprylon, morphine, n-acetylprocainamide, netilmicin, nortriptyline, oxazepam, oxycodone, paraldehyde, paraquat, pentazocine, pentobarbital, phenacetin, phencyclidine, phenobarbital, phensuximide, phenylbutazone, phenylpropanolamine, phenytoin, primidone, procainamide, propoxyphene, propranolol, protripyline, quinidine, salicylates, secobarbital, theophylline, thiocynate, thiopental, thioridazine, tobramycin, tolbutamide, valproic acid, vancomycin, cholesterol, triglycerides, glucose, adrenocortocotropic hormone, alanine, alanine aminotransferase, albumin, aldolase, aldosterone, amylase, amyloid-associated protein, androstenedione, angiotenesis, antidiuretic hormone, antithrombin, antitrypsin, apolipoprotein, ascorbic acid, bile acids, bilirubin, c-peptide, calcitonin, calcium, cancer antigen 125, carboxyhemoglobin, carotene, catecholamines, cholic acid, cholyglycine, chromium, chymotrypsin, complement components, coproporhyrin, corticobinding globulin, corticosterone, cortisol, c-peptide, c-reactive protein, creatine, creatinine, creatine kinase, cyclic AMP, cystine, cysteine, dehydroepiandrosterone, dehydroepiandrosterone sulfate, deoxycholic acid, 11-deoxycortocosterone, 11-deoxycortisol, dihydrotestosterone, estradiol, estriol, estrogen, estrone, fecal fat, fatty acids, ferritin, fetoprotein, fibrinogen, folate, follicle stimulating hormone, thyroxine, triiodothyronine, fructose, fructosamine, galactose, gastric acid, gastrin, glucagons, glucose-6-phosphate, glutamine, glutamyltransferase (GGT), glutathione, hemoglobin,

glycerol, glycine, glycolic acid, gold, gonadptropins, growth hormone, haptoglobin, high-density **lipoproteins**, hemopexin, hemocystein, homocysteine, homogentisic acid, homovanillic acid, hydrogen sulfide, 17-hydroxycortocosteriods, 5-hydroxyindoleacetic acid, 17-hydroxyprogesterone, hydroxyproline, immunoglobins, insulin, iron, isocitrate dehydrogenase, isoleucine, 17-ketogenic steroids, ketone bodies, lactate, lactate dehydrogenase, lactose, **LDL** -cholesterol, lecithin, leucine, leukocyte, lipase, **lipoproteins**, lutropin, lysozyme, macroamylase, magnesium, melanin, metanephrine, methionine, metyrapone, microsomal antibodies, antibodies, molybdenum, mucoploysaccharide, myelin basic protein, myoglobin, methemoglobin, niacin, nickel, nitrite, nitrogen, nonprotein nitrogen, normetanephrine, blood, orosomucoid, oxalate, oxytocin, pancreatice polypeptide, pantothenic acid, parathyroid hormone, pentachloropehnol, pentoses, pepsinogen, phenols, phenolsulfonaphthalein, phenylalanine, acid phosphatase, alkaline phosphatase, phosphofructokinase, phospholipids, placental lactogen, plasminogen, porphobilinogen, pre albumin, pregnanediol, chorionic gonadotropin, pregnanetriol, pregnenolone, progesterone, porinsulin, properdin, prostaglandins, prostate-specific antigen, portoporphyrin, pseudocholinesterase, pyruvic acid, renin, reverse triiodothyromine, rheumatoid factor, riboflavin, secretin, selenium, serotonin, somatomedin c, sucrose, testosterone, tetrahydrocortisol, tetrehydrodeoxycortisol, thallium, thyroglobin, thyroid antibodies, thyroid stimulating hormone, thyroxine binding globulin, thyroxine, transcortin, transferring, transketolase, transthyretin, thyrotropin-releasing hormone, triglycerides, triiodothryonine, tyrosine, urea, urea nitrogen, uric acid, uricase, urobilinogen, uroporphyrin, valine, vanillymandelic acid, vasoactive intestinal polypetide, human chorionic gonadotropin, mass creatinine kinase, vitamins, xylose, zinc, cyanide, formaldehyde, ethylene glycol, lead, mercury, xylene, human immunodeficiency virus (HIV), cytomegalovirus (CMV) IgG, cytomegalovirus (CMV) IgM, herpes simplex virus (types 1 and 2) IgG, rubella IgG, rubella, IgM, toxoplasma IgG, toxoplasma IgM, amebiasis, Epstein-barr early antigen, Epstein-barr EBNA IgG, Epstein-barr VCA IgG, Epstein-barr VCA IgM, helicobacter pylori-IgG, legionella IgG/IgM/IgA, mycoplasma IgG, mycoplasma IgM, varicella zoster virus (VZV), or autoimmune diseases antinuclear antibodies (ANA), antineutrophil cytoplasmic antibodies (ANCA), anti-cardiolipin, anti-dsDNA, anti-Jo-1, anti-Scl- 70, anti-Sm (Smith antigen), antiSm/RNP, anti-SS-A/RO, anti-SS-B/La, extractable nuclear antigen (ENA), myeloperoxidase IgG, proteinase-3 IgG, or Rheumatoid Factor (claimed).

ADVANTAGE - The method provides a more sensitive, precise, stable and cost effective source for rapid analysis in all areas of clinical diagnostics and biotechnology. The method eliminates the use of antibodies and other antiquated techniques such as high performance liquid chromatography (HPLC) and enzyme linked immunosorbent assay (ELISA) methods which are tedious and time consuming; thus eliminating the use and abuse of animals for the production of antibodies. The method increases the sensitivity, specificity and accuracy while not using antibodies and produces unexpected results.

Dwg.0/0

FILE 'HCAPLUS' ENTERED AT 15:07:36 ON 21 MAR 2006

L17 5 S L12 AND (ELECTROPHOR? OR ISOTACHOPHOR?)

L18 3 S L17 NOT (L9 OR L14)

L18 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN

ED Entered STN: 01 Aug 2002
ACCESSION NUMBER: 2002:568698 HCAPLUS
DOCUMENT NUMBER: 137:137014
TITLE: R & D of rapid, reliable technologies of **lipoprotein** fractionation by **electrophoresis** for 3 decades: For 21st century health promotion
AUTHOR(S): Urata, Takeyoshi
CORPORATE SOURCE: Department of Clinical Pathology, Showa University School of Medicine, Tokyo, 142-8666, Japan
SOURCE: Seibutsu Butsuri Kagaku (2002), 46(2), 79-89
CODEN: SBBKA4; ISSN: 0031-9082
PUBLISHER: Nippon Denki Eido Gakkai
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A review. The author has been focused on research and development of the following methodologies using **lipoprotein** fractionation by **electrophoresis** since 1970. 1. Development and application of thin layer agarose gel film and polyethylene tele-phthalate (PET) backing with hydrophilic treated surface for tough adhesion to agarose and polyacrylamide gels (1973). 2. **Electrophoresis** chamber with electronic cooling system based on Peltier effect (1980) and fine fractionation of **HDL** by α-cyclodextrin inclusion agarose isoelec. focusing **electrophoresis** (1982). 3. Enzymic formazan staining for fractionation of cholesterol (Chol), triglycerides (TG), phospholipids (PL) or total lipids (TL = Chol + TG + PL). (a) Chol fraction (1981) **Cholesterol Esterase-Cholesterol Dehydrogenase-NAD**-Diaphorase-NTB reaction. (b) TG fraction (1983) **Lipoprotein** Lipase-Glycerol Kinase-(Glycerol-3-phosphate Dehydrogenase)-**NAD** -Diaphorase-NTB reaction. (c) PL fraction (1983) Phospholipase D-Choline Oxidase-FAD-(1-m-PMS)-NTB reaction. (d) TL (Chol + TG + PL) fraction (1983) Complex reaction by combined reagent for the above three reactions. 4. Development of lipid profile (Chol, TG, PL and TL fractionations) into 3-Dimensional (3-D) skyscraper anal. and bird's-eye overview of lipid metabolic abnormalities (1985). 5. Specific staining for precise fractionation of Chol in **VLDL, LDL, HDL** and degenerate **LDL** after polyacrylamide gel **electrophoresis** (1991). With great expectation of wide propagation in the field of lipid research, the above technologies were transferred to a sophisticated specialist in separation anal. by **electrophoresis**, Helena Labs. (Japan) for their commercialization. Consequently, the com. products with automatic rapid **electrophoresis** (REP) procedure for Chol and TG based on Peltier effect and enzymic formazan staining have come out into one of the most valuable laboratory diagnostic tools (1997). Recently, it is said that lipotoxicity and adipotoxicity due to visceral obesity are background factors of multiple risk factor syndrome (MRFS) and primary preventive measures is therefore most urgent, critical subject for the health and welfare administration. Accordingly, aggressive approach to investigate new, exciting laboratory tests and methodologies are keenly interested in detection of MRFS at the stage of preliminary group in order to prevent from advancing toward onset. For example, individual laboratory test result of HbA1c, **HDL**-Chol or **LDL**-Chol is too small to utilize as signal for MRFS even if disease state is in borderline type. Contrarily, ratio of increasing or decreasing components with progress of disorders such as **LDL**-Chol ↑/ **HDL**-Chol ↓ and **HDL**

-Chol ↓/HbA1c ↑ becomes surprisingly important information with wide dynamic range, which may be reliable index to MRFS. Under the circumstances, 21st century subject is how to analyze and reflect medical information on majority of adult without disease so far, i.e., "population with unbalance" of eating and exercise lifestyle in visual pattern by 3-D skyscraper or 2-D anal.

L18 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 08 Jan 1997
ACCESSION NUMBER: 1997:6235 HCAPLUS
DOCUMENT NUMBER: 126:57090
TITLE: Triglycerides determination in protein fractions, enzyme solution for carrying out the method, and use of the method
INVENTOR(S): Wieland, Heinrich; Maerz, Winfried; Nauck, Matthias; Winkler, Karl
PATENT ASSIGNEE(S): Germany
SOURCE: Ger. Offen., 12 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19520210	A1	19961205	DE 1995-19520210	19950601
PRIORITY APPLN. INFO.:			DE 1995-19520210	19950601

AB A method is disclosed for the determination of triglycerides in **lipoprotein** fractions of blood serum by the following steps: (1) gel **electrophoretic** separation of the protein fractions in a suitable matrix (i.e., agarose and/or polyacrylamide); (2) enzymic splitting of the triglycerides; and (3) determination of the glycerol obtained in step 2. For performing this method, an enzyme solution that is especially suitable contains esterase, glycerokinase, and glycerol 3-phosphate dehydrogenase, and preferably addnl. triose phosphate isomerase, glyceraldehyde 3-phosphate dehydrogenase, and an electron coupler. The method may be used for the in vitro diagnosis of blood vessel disease and heart infarction.

IT **53-84-9, NAD**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(triglycerides enzymic determination in protein fractions)

L18 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN
ED Entered STN: 16 Sep 1990
ACCESSION NUMBER: 1990:494385 HCAPLUS
DOCUMENT NUMBER: 113:94385
TITLE: Determination of relative contents of cholesterol-containing **lipoproteins** in body fluids by thin-layer **electrophoresis**
INVENTOR(S): Aufenanger, Johannes
PATENT ASSIGNEE(S): Fed. Rep. Ger.
SOURCE: Ger. Offen., 6 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3817747	A1	19891130	DE 1988-3817747	19880525
EP 344580	A1	19891206	EP 1989-109261	19890523
EP 344580	B1	19941228		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
US 5385828	A	19950131	US 1992-981992	19921124
PRIORITY APPLN. INFO.:			DE 1988-3817747 A	19880525
			US 1989-359800 B1	19890601

AB In the title method, the **lipoproteins** are separated by thin-layer **electrophoresis**, incubated with **cholesterol esterase, cholesterol dehydrogenase, NAD**, an electron transfer agent, and a color indicator with formation of a detectable complex, and the relative amts. of high-, low-, and very-low-d. **lipoproteins** and **lipoprotein** X are measured. Thus, serum was **electrophoresed** on a thin-layer agarose gel for 40 min at 90 V. The gel was then incubated in buffer containing **cholesterol esterase, cholesterol dehydrogenase**, phenazine methosulfate, NBT chloride, and **NAD**, and subjected to densitometry.

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 15:08:08 ON 21 MAR 2006)

L19 7 S L17

L22 6 S L19 NOT (L10 OR L16)
L23 6 DUP REM L22 (0 DUPLICATES REMOVED)

L23 ANSWER 1 OF 6 JICST-EPlus COPYRIGHT 2006 JST on STN
ACCESSION NUMBER: 1020600840 JICST-EPlus
TITLE: R & D of rapid, reliable technologies of **lipoprotein** fractionation by **electrophoresis** for 3 decades: For 21st century health promotion.
AUTHOR: URATA TAKEYOSHI
CORPORATE SOURCE: Showadai I Rinshobyorigaku
SOURCE: Seibutsu Butsuri Kagaku (Japanese Journal of Electrophoresis), (2002) vol. 46, no. 2, pp. 79-89. Journal Code: G0565A (Fig. 9, Ref. 43) CODEN: SBBKA4; ISSN: 0031-9082
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Commentary
LANGUAGE: Japanese
STATUS: New
AB The author has been focused on research and development of the following methodologies using **lipoprotein** fractionation by **electrophoresis** since 1970. 1. Development and application of thin layer agarose gel film and polyethylene telephthalate (PET) backing with hydrophilic treated surface for tough adhesion to agarose and polyacrylamide gels (1973). 2. **Electrophoresis** chamber with electronic cooling system based on Peltier effect (1980) and fine fractionation of **HDL** by A-cyclodextrin inclusion agarose isoelectric focusing **electrophoresis** (1982). 3.

Enzymatic formazan staining for fractionation of cholesterol (Chol), triglycerides (TG), phospholipids (PL) or total lipids (TL=Chol+TG+PL). a) Chol fraction (1981). **Cholesterol Esterase-Cholesterol Dehydrogenase-NAD**-Diaphorase-NTB reaction. b) TG fraction (1983). **Lipoprotein** Lipase-Glycerol Kinase-(Glycerol-3-phosphate Dehydrogenase)-**NAD**-Diaphorase-NTB reaction. c) PL fraction (1983). Phospholipase D-Choline Oxidase-FAD-(1-m-PMS)-NTB reaction. d) TL (Chol+TG+PL) fraction (1983). Complex reaction by combined reagent for the above three reactions. 4. Development of lipid profile (Chol, TG, PL and TL fractionations) into 3-Dimensional (3-D) skyscraper analysis and bird's-eye overview of lipid metabolic abnormalities (1985). 5. Specific staining for precise fractionation of Chol in **VLDL, LDL, HDL** and degenerate **LDL** after polyacrylamide gel **electrophoresis** (1991). With great expectation of wide propagation in the field of lipid research, the above technologies were transferred to a sophisticated specialist in separation analysis by **electrophoresis**, Helena Laboratories (Japan) for their commercialization. Consequently, the commercial products with automatic rapid **electrophoresis** (REP) procedure for Chol and TG based on Peltier effect and enzymatic formazan staining have come out into one of the most valuable laboratory diagnostic tools (1997).... (author abst.)

L23 ANSWER 2 OF 6 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1999-443009 [37] WPIDS
CROSS REFERENCE: 1996-497796 [49]; 1999-069709 [06]; 1999-383976 [32]
DOC. NO. CPI: C1999-130466
TITLE: Measuring the amount of cholesterol in low density **lipoproteins** to identify individuals at risk of arteriosclerosis and ischemic heart disease.
DERWENT CLASS: A96 B01 B04 D16
INVENTOR(S): FUTATSUGI, M; HANADA, T; IMAJO, N; KOYAMA, I; MIKI, Y
PATENT ASSIGNEE(S): (WAKP) WAKO PURE CHEM IND LTD; (WAKP) WAKO JUNYAKU KOGYO KK
COUNTRY COUNT: 30
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5925534	A	19990720	(199937)*		28
EP 964249	A2	19991215	(200003)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
CA 2245261	A1	19991208	(200021)	EN	
JP 2000060600	A	20000229	(200022)		18
KR 2000004844	A	20000125	(200061)		
TW 577927	A	20040301	(200457)		
EP 964249	B1	20041110	(200473)	EN	
R: DE ES FR GB IT					
DE 69827472	E	20041216	(200482)		
ES 2227782	T3	20050401	(200524)		
DE 69827472	T2	20051020	(200569)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE

US 5925534	A	US 1998-128930	19980805
EP 964249	A2	EP 1998-306312	19980806
CA 2245261	A1	CA 1998-2245261	19980807
JP 2000060600	A	JP 1999-67854	19990315
KR 2000004844	A	KR 1998-32739	19980812
TW 577927	A	TW 1998-113136	19980810
EP 964249	B1	EP 1998-306312	19980806
DE 69827472	E	DE 1998-627472	19980806
		EP 1998-306312	19980806
ES 2227782	T3	EP 1998-306312	19980806
DE 69827472	T2	DE 1998-627472	19980806
		EP 1998-306312	19980806

FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 69827472	E Based on	EP 964249
ES 2227782	T3 Based on	EP 964249
DE 69827472	T2 Based on	EP 964249

PRIORITY APPLN. INFO: JP 1998-175396 19980608
AN 1999-443009 [37] WPIDS
CR 1996-497796 [49]; 1999-069709 [06]; 1999-383976 [32]
AB US 5925534 A UPAB: 19990914
NOVELTY - A method (X) for measuring the amount of cholesterol in low density **lipoproteins** (**LDLs**) in a sample, is new.
(X) comprises:
(i) contacting the sample with at least 1 solution to carry out the reaction in the presence of a polyanion and an amphoteric surfactant; and
(ii) subjecting the reaction product obtained to an optical measurement to determine the amount of cholesterol.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(i) a reagent (A) for measuring the amount of cholesterol in **LDLs**, which comprises:
(1) **cholesterol esterase** (1) and cholesterol oxidase (2) or **cholesterol dehydrogenase** (3);
(2) a polyanion; and
(3) an amphoteric surfactant;
(ii) a reagent (B) for measuring the amount of cholesterol in **LDLs**, which comprises:
(1) a polyanion;
(2) an amphoteric surfactant;
(3) (1);
(4) (2), peroxidase (4) and an oxidisable color producing reagent or (3) and (5); and
(5) an aqueous medium;
(iii) a kit (I) for measuring the amount of cholesterol in **LDLs**, which comprises:
(1) a reagent container (Ia) containing:
(a) a polyanion;
(b) an amphoteric surfactant;
(c) (1);
(d) (2), (4) and an oxidisable color producing reagent or (3) and **nicotinamide adenine dinucleotide** (phosphate) (5); and
(e) an aqueous medium; and

(2) a reagent container (Ib) containing an aqueous medium;
(iv) a kit (II) for measuring the amount of cholesterol in **LDLs**, which comprises:
(1) a reagent container (IIa) containing:
(a) a polyanion;
(b) an amphoteric surfactant;
(c) (1);
(d) (2);
(e) (4);
(f) an aqueous medium; and
(g) either a coupler or developer agent; and
(2) a reagent container (IIb) containing:
(a) an aqueous medium; and
(b) either a coupler or developer agent (depending on which chemical is absent from (IIa);
(v) a kit (III) for measuring the amount of cholesterol in LDLs, which comprises:
(1) a reagent container (IIIa) containing:
(a) a polyanion;
(b) an amphoteric surfactant;
(c) (1);
(d) (2);
(e) catalase (6);
(f) an aqueous medium; and
(g) either a coupler, developer agent and/or peroxidase; and
(2) a reagent container (IIIb) containing:
(a) a catalase inhibitor (7);
(b) an aqueous medium; and
(c) either a coupler, developer agent and/or peroxidase (depending on which chemical is absent from (IIIa);
(vi) a kit (IV) for measuring the amount of cholesterol in LDLs, which comprises:
(1) a reagent container (IVa) containing:
(a) a polyanion;
(b) an amphoteric surfactant;
(c) (1);
(d) (3);
(e) (5); and
(f) an aqueous medium; and
(2) a reagent container (IVb) containing:
(a) an aqueous medium;
(b) (2);
(c) (4);
(d) an oxidizable color producing reagent; and
(e) a cholesterol dehydrogenase inhibitor (8); and
(vii) a kit (V) for measuring the amount of cholesterol in LDLs, which comprises:
(1) a reagent container (Va) containing:
(a) a polyanion;
(b) an amphoteric surfactant;
(c) (1);
(d) (2);
(e) (4);
(f) either a coupler and/or a developer; and
(g) an aqueous medium; and
(2) a reagent container (Vb) containing:
(a) an aqueous medium;
(b) (3);
(c) (5); and

(d) a cholesterol oxidase inhibitor (9).

USE - (X) may be used for measuring the amount of cholesterol in LDLs in samples from patients. LDL is a major carrier of cholesterol from the liver to other body tissues and increases in levels of LDLs appear to have an intimate relationship to the generation of arteriosclerosis and ischemic heart disease. Therefore, (I) may be used to measure LDL-cholesterol content, as an important indicator of diagnosis, therapy and prophylaxis of these diseases.

ADVANTAGE - (I) is a simple process with few stages and requiring few reagents (i.e. it does not require pretreatment of the sample to remove other non-LDL proteins (as compared to the ultra centrifugation and electrophoresis methods)) and may be carried out using widely available automated analyzers. (I) may be used to detect LDL-cholesterol content even if the sample contains greater than 400 mg/dl of triglycerides (compared to the Friedewald method).

Dwg.0/13

L23 ANSWER 3 OF 6 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN

ACCESSION NUMBER: 1989-357528 [49] WPIDS
DOC. NO. NON-CPI: N1989-271750
DOC. NO. CPI: C1989-158494
TITLE: Determn. of cholesterol-containing **lipo protein** fractions - by **electrophoresis** on a thin-layer carrier matrix.
DERWENT CLASS: B04 D16 S03 S05
INVENTOR(S): AUFENANGER, J
PATENT ASSIGNEE(S): (AUFE-I) AUFENANGER J; (IMMO) IMMUNO CHEM MEDIZINISCHE PROD; (IMMO) IMMUNO AG; (IMMO) IMMUNO CHEM MEDIZINISCHE PROD AG
COUNTRY COUNT: 11
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DE 3817747	A	19891130	(198949)*		6
EP 344580	A	19891206	(198949)	GE	
R: AT BE CH DE FR GB IT LI NL SE					
EP 344580	B1	19941228	(199505)	GE	9
R: AT BE CH DE FR GB IT LI NL SE					
DE 58908816	G	19950209	(199511)		
US 5385828	A	19950131	(199511)#		6

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
DE 3817747	A		DE 1988-3817747	19880525
EP 344580	A		EP 1989-109261	19890523
EP 344580	B1		EP 1989-109261	19890523
DE 58908816	G		DE 1989-508816	19890523
			EP 1989-109261	19890523
US 5385828	A	Cont of	US 1989-359800	19890601
			US 1992-981992	19921124

FILING DETAILS:

PATENT NO	KIND	PATENT NO

DE 58908816 G Based on EP 344580

PRIORITY APPLN. INFO: DE 1988-3817747 19880525
AN 1989-357528 [49] WPIDS
AB DE 3817747 A UPAB: 19930923
(A) In a new procedure for the determination of the relative amounts of all cholesterol-containing **lipoproteins** in body fluids in which the **lipoproteins** of an aliquot of body fluid are separated **electrophoretically** on a carrier matrix and subsequently detected by means of an enzymatic reaction comprising incubation of the carrier matrix with cholesterolase and **cholesterol dehydrogenase**, leading to the formation of a detectable complex, and the relative amounts of the different **lipoprotein** classes are determined, the **electrophoresis** is carried out on a thin-layer matrix. (B) In a new procedure for the determination of the concentration of all cholesterol-containing **lipoproteins** in body fluids, the relative amounts determined by the above procedure are expressed in proportion to the total cholesterol concentration of the body fluid.

USE/ADVANTAGE - Determination of low- and high-density **lipoprotein** cholesterol as an aid to the diagnosis of susceptibility to atherosclerosis and cardiac infarction. The procedure is rapid, reliable and reproducible, and gives results in archivable form.

ABEQ EP 344580 B UPAB: 19950207
Process for the determination of the relative quantities of all **lipoproteins** containing cholesterol in body fluids, wherein the **lipoproteins** of an aliquot of the body fluid are **electrophoretically** separated on a supporting matrix and are then detected by an enzymatic treatment which comprises incubation of the supporting matrix with the enzymes **cholesterol esterase** and **cholesterol dehydrogenase** together with the co-enzyme **nicotinamide-adenine dinucleotide** and leads to the formation of a detectable formazan complex and the relative quantities of the various classes of **lipoproteins** are determined, characterised in the **electrophoresis** is performed on a thin layer matrix with a thickness of 0.1 to 0.5 mm.
Dwg.0/0

ABEQ US 5385828 A UPAB: 19950322
Cholesterol-contg. **lipoprotein** in very low density, low density and high density **lipoprotein** forms in a body fluid are simultaneously determined w.r.t. other/total amts. of cholesterol-contg. **lipoproteins**.

Process comprises (a) **electrophoretically** sepg. the **lipoproteins** from each other on a thin layer carrier matrix contg. 0.5 wt.% or less of albumin; (b) incubating the matrix after sepn. using a developer soln. contg. 0.02-2.0 U per ml. of **cholesterol esterase** and 0.07-1.0 U per ml. of **cholesterol dehydrogenase**; and (c) determining relative amts. of the **lipoproteins**.

ADVANTAGE - Thin layer matrixes are very easy to handle and to record.
Dwg.0/0

L23 ANSWER 4 OF 6 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1988-162300 [24] WPIDS
DOC. NO. NON-CPI: N1988-123982
DOC. NO. CPI: C1988-072326

TITLE: Determination of cholesterol partition into protein fractions - by gel **electrophoresis** followed by staining with enzyme solution containing **cholesterol esterase** and **cholesterol dehydrogenase.**
DERWENT CLASS: B04 D16 J04 S03
INVENTOR(S): AUFENANGER, J
PATENT ASSIGNEE(S): (AUFE-I) AUFENANGER J; (IMMO) IMMUNO AG
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DE 3640349	A	19880609	(198824)*		3
DE 3640349	C2	19931104	(199344)		3

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 3640349	A	DE 1986-3640349	19861126
DE 3640349	C2	DE 1986-3640349	19861126

PRIORITY APPLN. INFO: DE 1986-3640349 19861126
AN 1988-162300 [24] WPIDS
AB DE 3640349 A UPAB: 19930923
In the quantitative determination of the partition of cholesterol into protein fractions after their gel **electrophoretic** separation, after the **electrophoresis,** the gel is incubated in a staining solution which is an enzyme containing **cholesterol esterase** and **cholesterol dehydrogenase** in addition to other substrates.

Enzyme substrate solution for carrying out this procedure contains 57 mM tris buffer, 0.5 mM **NAD,** 0.1 mM EDTA, 0.16 mM INT, 0.03 mM PMS, 0.14 U/ml **cholesterol dehydrogenase** and 0.4 U/ml **cholesterol esterase.**

USE/ADVANTAGE - Determination of cholesterol in protein fractions for diagnostic purposes in high-risk patients, e.g. heart infarct patients or cardiac valve patients. The determination is affected by neither fibrinogen nor lipolysis (as e.g. occurs in patients treated with heparin).
0/0
ABEQ DE 3640349 C UPAB: 19931213
Determn. of the distribution of cholesterol in protein fractions obtd. after gel **electrophoresis** comprises incubation of each fraction with a soln. contg. cholesterolesterase (0.4 units/cm3), cholesteroldehydrogenase (0.14 units/cm3), nictoinamideadeninedinucleotide (0.0005 mol/dm3), EDTA (0.0001 mol/dm3), TRIS buffer (0.057 mol/dm3) and a chromogen (0.016 mol/dm3), e.g. 2-(4-iodophenyl)-3 -(4-nitrophenyl-5 -phenyltetrazolium chloride or 2,2'-di(4-nitropohenyl) -5,5'diphenyl-3-3'-(3,3' -dimethoxybiphenylene-4,4') -ditetrazolium dichloride; and the intensity of colour at 570 nm is measured.

USE - The process is applicable to the clinical analysis of cholesterol in **lipoprotein** fractions.
Dwg.0/0

L23 ANSWER 5 OF 6 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on

STN
ACCESSION NUMBER: 1985:325921 BIOSIS
DOCUMENT NUMBER: PREV198579105917; BA79:105917
TITLE: APOLIPOPROTEIN B-48 AND B-100 VERY LOW DENSITY **LIPOPROTEINS** COMPARISON IN DYSBETALIPOPROTEINEMIA TYPE III AND FAMILIAL HYPERTRIGLYCERIDEMIA TYPE IV.
AUTHOR(S): TERCE F [Reprint author]; MILNE R W; WEECH P K; DAVIGNON J; MARCEL Y L
CORPORATE SOURCE: CLINICAL RES INST MONTREAL, 110 PINE AVENUE WEST, MONTREAL, QUEBEC, H2W 1R7, CANADA
SOURCE: Arteriosclerosis, (1985) Vol. 5, No. 2, pp. 201-211. CODEN: ARTRDW. ISSN: 0276-5047.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH

AB A protein band having the same migration as apolipoprotein (apo) B-48 was observed by SDS [sodium dodecyl sulfate] **electrophoresis** in the plasma very low-density **lipoprotein** (**VLDL**) from 14 Type IV and 3 Type III hyperlipoproteinemic subjects and from 6 normal fasting subjects. The **VLDL** from 5 Type IV, 3 Type III **nad** 1 normal subject were separated into 2 subfractions, retained and nonretained, by immunoaffinity chromatography on monoclonal anti-apo B-100 Sepharose. These 2 fractions evidently represent apo B-48 and apo B-100 **lipoproteins** that the authors named apo B-48 and apo B-100 **VLDL**. When compared to their respective apo B-100 **VLDL**, the apo B-48 **VLDL** from either Type III or Type IV was principally enriched in total lipids, in apo E and had an **electrophoretic** migration similar to chylomicrons. Apo B-48 **VLDL** has the same origin (i.e., intestinal) in the 2 disorders. Both apo B-48 and apo B-100 **VLDL** were enriched in **cholesteryl ester** (**CE**) and depleted in triglyceride (TG) in Type III; however, both fractions were rich in TG and poor in **CE** in Type IV and in normal subjects. In addition, compared to their respective apo B-100 **VLDL**, the apo B-48 fraction was enriched in **CE** in Type III and in TG in Type IV. Despite a possible similar origin for apo B-48 **VLDL** in Type III and in Type IV subjects, the composition of apo B-48 **VLDL** is variable and the **CE** /TG ratio is more characteristic of the type of hyperlipidemia than of the particular **VLDL** subfractions.

L23 ANSWER 6 OF 6 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1984-020095 [04] WPIDS
DOC. NO. NON-CPI: N1984-015061
DOC. NO. CPI: C1984-008427
TITLE: Measuring **lipoprotein** cholesterol level - by subjecting to **electrophoresis** then adding colouring agent containing **cholesterol esterase** and dehydrogenase.
DERWENT CLASS: B04 D16
PATENT ASSIGNEE(S): (NICM) NIPPON CHEMIPHAR CO
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 58210000	A	19831207	(198404)*		3

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 58210000	A	JP 1982-92731	19820531

PRIORITY APPLN. INFO: JP 1982-92731 19820531
AN 1984-020095 [04] WPIDS
AB JP 58210000 A UPAB: 19930925
Sample is subjected to **electrophoresis** to fractionate **lipoprotein** cholesterol, and a colouring agent containing **cholesterol esterase** (**CE**), **cholesterol dehydrogenase** (**CDH**) which is dependent upon **NAD** originated from anaerobes, **NAD**, diaphorase (DI) and NTB is contacted with the **lipoprotein** cholesterol.

The measurement of **lipoprotein** cholesterol level in serum is important for examination of diseases of coronary system, etc.

Sharp and clear coloured pattern can be obtd. in short time, and thus accurate measurement is possible. The colouring agent contains 10-15 microns of **CE**, 6-15 microns of **CDH**, 10-15 microns of DI, 10 -15 mMgof **NAD** and 0.5-1 mM of NTB. The colouring can be conducted by incubation of 35-38 deg.C for 20-40 minutes. The **electrophoresis** is conducted at 90V for 60-70 minutes.
0/0

FILE 'MEDLINE' ENTERED AT 15:12:40 ON 21 MAR 2006

FILE LAST UPDATED: 18 MAR 2006 (20060318/UP). FILE COVERS 1950 TO DATE.

On December 11, 2005, the 2006 MeSH terms were loaded.

The MEDLINE reload for 2006 is now (26 Feb.) available. For details on the 2006 reload, enter HELP RLOAD at an arrow prompt (=>).
See also:

http://www.nlm.nih.gov/mesh/
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med_data_changes.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html

OLDMEDLINE is covered back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2006 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

L24	1366	SEA	FILE=MEDLINE ABB=ON	PLU=ON	"CHOLESTEROL ESTERASE"/CT
L25	30981	SEA	FILE=MEDLINE ABB=ON	PLU=ON	LIPOPROTEINS/CT
L26	40	SEA	FILE=MEDLINE ABB=ON	PLU=ON	L24 AND L25
L27	22022	SEA	FILE=MEDLINE ABB=ON	PLU=ON	NAD/CT
L28	0	SEA	FILE=MEDLINE ABB=ON	PLU=ON	L26 AND L27

Searcher : Shears 571-272-2528

L25	30981	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	LIPOPROTEINS/CT
L27	22022	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	NAD/CT
L29	17	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	L25 AND L27
L30	15253	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	BUFFERS/CT
L31	0	SEA	FILE=MEDLINE	ABB=ON	PLU=ON	L29 AND L30

FILE 'HOME' ENTERED AT 15:13:46 ON 21 MAR 2006

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=> d his ful

     (FILE 'HCAPLUS' ENTERED AT 14:49:50 ON 21 MAR 2006)
                DEL HIS Y

     FILE 'REGISTRY' ENTERED AT 14:50:43 ON 21 MAR 2006
                E CHOLESTEROL DEHYDROGENASE/CN 5
L1              2 SEA ABB=ON  PLU=ON  CHOLESTEROL DEHYDROGENASE ?/CN
                E CHOLESTEROL ESTERASE/CN 5
L2             10 SEA ABB=ON  PLU=ON  CHOLESTEROL ESTERASE ?/CN
                D CN
L*** DEL        1 S CHOLESTEROL ESTERASE/CN
                D CN

     FILE 'HCAPLUS' ENTERED AT 14:52:26 ON 21 MAR 2006

     FILE 'REGISTRY' ENTERED AT 14:52:28 ON 21 MAR 2006
                E NAD/CN 5
L3              1 SEA ABB=ON  PLU=ON  NAD/CN
                D CN
                E TRICINE/CN 5
L4              1 SEA ABB=ON  PLU=ON  TRICINE/CN

     FILE 'HCAPLUS' ENTERED AT 14:53:09 ON 21 MAR 2006
L5            799 SEA ABB=ON  PLU=ON  L1 OR CHOLESTEROL(W)(DEHYDROGENASE OR
                DE HYDROGENASE) OR CDH
L6          19312 SEA ABB=ON  PLU=ON  L2 OR (CHOLESTER? OR STEROID)(W)(ESTER
                OR ESTERASE) OR ((KETOSTERYL OR KETO STERYL)(W)OLEATE OR
                CHOLESTER? OR CHOLESTERYL ESTER)(W)HYDROLASE OR (ACYLCHOLES
                TER? OR ACY CHOLESTER? OR HORMONE SENSITIVE)(W)LIPASE OR
                STEROL ESTER(W)(ACYLHYDROLASE OR ACYL HYDROLASE)
L*** DEL       65 S L5 AND L6
L*** DEL       28 S L7 AND (L3 OR NAD OR NADH OR (DIHYDRONICOTINAMIDE OR DI H
L7             65 SEA ABB=ON  PLU=ON  L5 AND (L6 OR CE)
L8             28 SEA ABB=ON  PLU=ON  L7 AND (L3 OR NAD OR NADH OR (DIHYDRONI
                COTINAMIDE OR DI HYDRONICOTINAMIDE OR NICOTINAMIDE)(W)ADENI
                NE(W)(DINUCLEOTIDE OR DI NUCLEOTIDE) OR (COENZYME OR CO
                ENZYME)(1W)(1 OR I) OR DPN OR (DIPHOSPHOPYRIDINE OR
                DI(W)(PHOSPHOPYRIDINE OR PHOSPHO PYRIDINE) OR DIPHOSPHO
                PYRIDINE)(W)NUCLEOTIDE)
L9              2 SEA ABB=ON  PLU=ON  L8 AND (L4 OR TRICINE)

     FILE 'REGISTRY' ENTERED AT 14:59:07 ON 21 MAR 2006

     FILE 'HCAPLUS' ENTERED AT 14:59:07 ON 21 MAR 2006
                D QUE
                D L9 1-2 .BEVSTR

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,
     JICST-EPLUS, JAPIO' ENTERED AT 14:59:07 ON 21 MAR 2006
L10             1 SEA ABB=ON  PLU=ON  L9
                D IBIB ABS

     FILE 'HCAPLUS' ENTERED AT 15:01:58 ON 21 MAR 2006
L11          7563 SEA ABB=ON  PLU=ON  (L5 OR L6 OR CE) AND (LIPOPROTEIN OR
                LIPO PROTEIN OR HDL OR LDL OR VLDL)
L12            32 SEA ABB=ON  PLU=ON  L11 AND (L3 OR NAD OR NADH OR (DIHYDRON
                ICOTINAMIDE OR DI HYDRONICOTINAMIDE OR NICOTINAMIDE)(W)ADEN
                INE(W)(DINUCLEOTIDE OR DI NUCLEOTIDE) OR (COENZYME OR CO
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               ENZYME)(1W)(1 OR I) OR DPN OR (DIPHOSPHOPYRIDINE OR
               DI(W)(PHOSPHOPYRIDINE OR PHOSPHO PYRIDINE) OR DIPHOSPHO
               PYRIDINE)(W)NUCLEOTIDE)
L13            3 SEA ABB=ON  PLU=ON  L12 AND (L4 OR TRICINE)
               D QUE
L14            1 SEA ABB=ON  PLU=ON  L13 NOT L9
               D .BEVSTR

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,
     JICST-EPLUS, JAPIO' ENTERED AT 15:04:23 ON 21 MAR 2006
L15            2 SEA ABB=ON  PLU=ON  L13
L16            1 SEA ABB=ON  PLU=ON  L15 NOT L10
               D IBIB ABS

     FILE 'HCAPLUS' ENTERED AT 15:07:36 ON 21 MAR 2006
L17            5 SEA ABB=ON  PLU=ON  L12 AND (ELECTROPHOR? OR ISOTACHOPHOR?)

L18            3 SEA ABB=ON  PLU=ON  L17 NOT (L9 OR L14)
               D 1-3 .BEVSTR

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH,
     JICST-EPLUS, JAPIO' ENTERED AT 15:08:08 ON 21 MAR 2006
L19            7 SEA ABB=ON  PLU=ON  L17

L22            6 SEA ABB=ON  PLU=ON  L19 NOT (L10 OR L16)
L23            6 DUP REM L22 (0 DUPLICATES REMOVED)
               D 1-6 IBIB ABS

     FILE 'MEDLINE' ENTERED AT 15:12:40 ON 21 MAR 2006
               E CHOLESTEROL ESTERASE/CT 5
L24         1366 SEA ABB=ON  PLU=ON  "CHOLESTEROL ESTERASE"/CT
               E LIPOPROTEINS/CT 5
L25        30981 SEA ABB=ON  PLU=ON  LIPOPROTEINS/CT
L26           40 SEA ABB=ON  PLU=ON  L24 AND L25
               E NAD/CT 5
L27        22022 SEA ABB=ON  PLU=ON  NAD/CT
L28            0 SEA ABB=ON  PLU=ON  L26 AND L27
L29           17 SEA ABB=ON  PLU=ON  L25 AND L27
               E BUFFERS/CT 5
L30        15253 SEA ABB=ON  PLU=ON  BUFFERS/CT
L31            0 SEA ABB=ON  PLU=ON  L29 AND L30
               D QUE L28
               D QUE L31

     FILE 'HOME' ENTERED AT 15:13:46 ON 21 MAR 2006


     FILE REGISTRY
     Property values tagged with IC are from the ZIC/VINITI data file
     provided by InfoChem.

     STRUCTURE FILE UPDATES:   20 MAR 2006  HIGHEST RN 877371-73-8
     DICTIONARY FILE UPDATES:  20 MAR 2006  HIGHEST RN 877371-73-8

     New CAS Information Use Policies, enter HELP USAGETERMS for details.

     TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

       Please note that search-term pricing does apply when
```

conducting SmartSELECT searches.

```
**********************************************************************
*                                                                    *
* The CA roles and document type information have been removed from  *
* the IDE default display format and the ED field has been added,    *
* effective March 20, 2005.  A new display format, IDERL, is now     *
* available and contains the CA role and document type information.  *
*                                                                    *
**********************************************************************
```

Structure search iteration limits have been increased. See HELP SLIMI for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

FILE HCAPLUS

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FILE COVERS 1907 - 21 Mar 2006 VOL 144 ISS 13
FILE LAST UPDATED: 20 Mar 2006 (20060320/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE MEDLINE
FILE LAST UPDATED: 18 MAR 2006 (20060318/UP). FILE COVERS 1950 TO DA

On December 11, 2005, the 2006 MeSH terms were loaded.

The MEDLINE reload for 2006 is now (26 Feb.) available. For details on the 2006 reload, enter HELP RLOAD at an arrow prompt (=>).
See also:

http://www.nlm.nih.gov/mesh/
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med_data_changes.ht
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html

OLDMEDLINE is covered back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2006 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE BIOSIS
FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 15 March 2006 (20060315/ED)

FILE EMBASE
FILE COVERS 1974 TO 21 Mar 2006 (20060321/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

EMBASE is now updated daily. SDI frequency remains weekly (default) and biweekly.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE WPIDS
FILE LAST UPDATED: 15 MAR 2006 <20060315/UP>
MOST RECENT DERWENT UPDATE: 200618 <200618/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE, PLEASE VISIT:
http://www.stn-international.de/training_center/patents/stn_guide.pdf

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE
http://scientific.thomson.com/support/patents/coverage/latestupdates/

>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER GUIDES, PLEASE VISIT:
http://scientific.thomson.com/support/products/dwpi/

>>> FAST-ALERTING ACCESS TO NEWLY-PUBLISHED PATENT DOCUMENTATION NOW AVAILABLE IN DERWENT WORLD PATENTS INDEX FIRST VIEW - FILE WPIFV.
FOR FURTHER DETAILS:
http://scientific.thomson.com/support/products/dwpifv/

>>> THE CPI AND EPI MANUAL CODES WILL BE REVISED FROM UPDATE 200601.
PLEASE CHECK:
http://scientific.thomson.com/support/patents/dwpiref/reftools/classif

>>> PLEASE BE AWARE OF THE NEW IPC REFORM IN 2006, SEE
http://www.stn-international.de/stndatabases/details/ipc_reform.html
http://scientific.thomson.com/media/scpdf/ipcrdwpi.pdf <<<

FILE CONFSCI
FILE COVERS 1973 TO 25 May 2005 (20050525/ED)

CSA has suspended updates until further notice.

Searcher : Shears 571-272-2528

FILE SCISEARCH

FILE COVERS 1974 TO 16 Mar 2006 (20060316/ED)

SCISEARCH has been reloaded, see HELP RLOAD for details.

FILE JICST-EPLUS
FILE COVERS 1985 TO 20 MAR 2006 (20060320/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED TERM (/CT) THESAURUS RELOAD.

FILE JAPIO
FILE LAST UPDATED: 21 MAR 2006 <20060321/UP>
FILE COVERS APR 1973 TO NOVEMBER 24, 2005

>>> GRAPHIC IMAGES AVAILABLE <<<

>>> NEW IPC8 DATA AND FUNCTIONALITY NOT YET AVAILABLE IN THIS FILE. USE IPC7 FORMAT FOR SEARCHING THE IPC. WATCH THIS SPACE FOR FURTHE DEVELOPMENTS AND SEE OUR NEWS SECTION FOR FURTHER INFORMATION ABOUT THE IPC REFORM <<<

FILE HOME